











## Lostine Commercial Thinning Guidelines


### Common to all units:

- Retain all trees greater than 21" dbh, except those that are danger trees. These identified trees will be marked in blue.
- **Do Not** mark non-danger trees > than 25" dbh.
- Focus on reserving well-spaced dominant and co-dominant conifers exhibiting quality form, vigorous growth, balanced crowns, and generally a live crown ratio of greater than 30 percent. However, unique trees such as open-grown "wolf trees" with cavities, broken tops, and complex crowns will occasionally be reserved. Spacing will vary as needed to provide sufficient space for the expansion of reserve tree crowns.
- Release or culture around viable (at least 30% LCR) dominant western larch, ponderosa pine and Douglas-fir trees approximately 10' from the crown dripline. **Do Not** culture around any of these trees that have mistletoe or otherwise have morphological characteristics of poor form and growth.
- Gap creation of up to ½ acre in size (104' x 104' or 83' radius) is allowed around healthy dominant western larch and where pockets of decadent lodgepole pine are encountered. Gaps should not represent more than five percent of any unit's total area.
- When aspen is encountered that is above browse height (approximately 10 feet) select all conifers that are less than 21" dbh for removal within 50 feet of the bole.
- Retain all aspen & cottonwood >7" dbh

- Generally select for removal Douglas-fir and western larch trees with a Hawksworth Dwarf Mistletoe ratings greater than 3. Some western larch with ratings greater than 3 may be retained that are isolated from other host species, and also exhibits high vigor that could be produce viable cone crops.

### Hawksworth 6-class Mistletoe Rating System

Instructions	
<b>Step 1</b>	Divide live crown into thirds.
<b>Step 2</b>	Rate each third separately. Each third should be given a rating of 0, 1, or 2 as described below:
	(0) no visible infections
	(1) light infection (1/2 or less of total number of branches in the third infected)
	(2) heavy infection (more than 1/2 total number of branches in the third infected).



- Where Douglas-fir or western larch over 21" dbh are infected with Dwarf Mistletoe, try to

select for removal any host species within 50 feet.

- Provide approximately 1 to 3 clumps per acre of three or more trees. Spatially vary the clumps throughout the units and focus

clumping around shallow rooted species like Engelmann spruce where available.

- Select for removal any trees with indicators of pathogenic diseases or insect infestations

### Danger Tree Guidelines

- Mark all danger trees >21" dbh with blue paint that have an imminent or likely failure potential.
- Danger trees that leaning towards **roads or with a <15° lean away from road** and are within 1.5 times the total tree height from the road/target are to be marked for felling and/or removal.
- All dead trees have at least a likely failure potential, **except for Douglas-fir & Western larch >10" dbh** with all its bark, some foliage, and fine branches.
- True firs with Indian paint fungus that have at least one conk larger than 6" or multiple small conks are considered to have an imminent or likely failure potential



- Trees with > 1 "Cow Pie" conk have at least a likely or imminent failure potential. Will likely only be found on Douglas-fir.



- Douglas-fir & Western larch with one red ring conk with open cracks or more than three conks >6" wide are considered to be at least of likely failure potential.



### **Danger Tree Guidelines (cont.)**

- Engelmann spruce tomentosus root and butt rot with >1 conk.



- Generally, any live tree with at least one conk is considered at least of likely failure potential, except for those previously mentioned like Indian Paint and Red Ring fungi.
- Lodgepole pine with atropellis canker that has resulted in <50% sound wood at the bole's cross section.
- Trees with **dead** dwarf mistletoe brooms >10' in diameter
- Forked or multiple topped trees with open cracks, decay or conks
- Leaning and/or "root-sprung" with a recent lean as evidenced by freshly disturbed soil
- Trees with undermined or severed roots that have >25% of the structural roots exposed
- Weeping frost cracks and open bole cracks are a likely failure potential
- Dead tops on true firs and spruce is likely if less than 5 years since dieback & likely on Douglas-fir if greater than 5 years since dieback.

### **Commercial Thinning Retention by Unit:**

- **Do Not** include snags or trees less than 7" dbh in target retention

Unit	Residual Basal Area (ft <sup>2</sup> )
Roadside Thinning	80-120
2	140-160
4	120-140
5 & 6	120-150
7 & 7a	120-150 (~ 80 in southern 1/3 of 7a)
8	40-60
9	40-60 (~60-120 in northern 1/3)
11	40-60 (~60-120 in southern 1/3)
13 & 14	140-160
15	140-160
17	140-160
18, 18b & 18c	130-160
19 thru 23	130-160

### **Species Hierarchy for Retention:**

Species retention will generally be prioritized in accordance with the following list. However, exceptions should be made based on an evaluation of the quality of the leave trees. For example, a western larch exhibiting low vigor or infected with dwarf mistletoe should not be selected over a high vigor tree of a subordinate species in this list

1. Ponderosa pine & Western larch
2. Douglas-fir
3. Engelmann spruce
4. Grand/white fir
5. Subalpine fir
6. Lodgepole pine

### **Group Select & Patch Cut Retention**

- Retain all trees greater than 21” dbh
- In group select units, retain all viable western larch & ponderosa pine

Unit	Trees per acre
8a, 9a, 10a, 11a & 11b	0-5
17a	0
18a & 19a	5-10

### **Miscellaneous**

- Mark trees for retention within 25” of identified “non-contiguous” Cat 4 streams, seeps and springs.
- Mark trees in a pattern that protects cultural resources from both wildfire and harvest operations.
- Mark leave trees adjacent to pre-historical cultural resource site in Unit 19 minimally. Just butt marks and dash slightly above breast height that can be identified by an equipment operator. Use this marking strategy for approximately 100’ in radius from site.
- Mark leave trees within site distance of roads, campgrounds, trails and other recreation sites on the side opposite of these features to maintain scenic quality.











